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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,667	01/05/2001	Yoshiaki Kumamoto	199314US3PCT	5630

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EXAMINER

BRUENJES, CHRISTOPHER P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 09/11/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/673,667

Applicant(s)

KUMAMOTO ET AL.

Examiner

Christopher P Bruenjes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/5/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figures 20a-20c should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9,11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 9 and 11, the limitation "and/or" makes the claim indefinite, because it is unknown if the applicant is claiming a plastic layer on both surfaces or just one surface.

Regarding claims 9,13-14, process limitations are given little patentable weight in article claims because different processes can produce the same structure for the article.

Regarding claims 11-12, limitations on the parameters of starting materials are given little patentable weight because the same article can be produced with starting materials with slightly different parameters.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiyonaga (Japanese Patent Pub. No.35-9669).

Kiyonaga anticipates a molded article (Fig.4a) comprising pulp having an opening portion, a body portion, and a bottom portion, wherein said body portion has no seams (p.7, line 24), the outer and inner surfaces of said article are smooth, and said body portion has a least one cross-sectional diameter greater than the opening portion and of another corresponding

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diameter of said body portion (Fig.3a). Kiyonaga also teaches a molded article wherein all the cross-sectional diameters of said body portion are greater than corresponding cross-sectional diameters of said opening portion (Fig.3a). All of the cross-sectional diameters fall along the same vertical plane.

Kiyonaga also anticipates a molded article that has no seams over the portion from said body portion to said bottom portion (p.7, line 24). Kiyonaga also teaches that the molded article is obtainable by heat drying in which the wet pulp deposited body is pressed against the inner wall of a mold (p.6, lines 20-22) and dried before transferring from the mold (p.6, lines 28-32). Note that applicant in claim 13 claims a limitation of heat drying the molded article and steps for performing that process which is a process limitation introduced into a product claim, hence, such are given little patentable weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

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art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyonaga (Japanese Patent Pub. No.35-9669) in view of Kelley et al (USPN 5,356,518).

Kiyonaga anticipates the molded article claimed in claim 1 and teaches that the molded article has a lip on said opening portion for connection of a cap to the molded article, but Kiyonaga fails to teach a screw thread on said opening portion. However, Kelley et al teach a paper container (Fig.6) of sufficient strength and detailing that a thread is provided on an opening portion that is distinct and strong enough for a threaded cap to be removably secured thereto (col.5, lines 57-61). Therefore, one of ordinary skill in the art would have recognized that a screw thread is molded to the opening portion

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of a paper container in order to provide a connection for a threaded cap to be removably secured thereto, as taught by Kelley et al.

Thus, it would have been obvious to one of ordinary skill at the time the applicant's invention was made to mold a screw thread on the opening portion of Kiyonaga in order for a threaded cap to be removably secured thereto, as taught by Kelley et al.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyonaga (Japanese Patent Pub. No.35-9669) in view of Utsul et al (EP 562,590 A1).

Kiyonaga anticipates all that is claimed in claim 1, but fails to teach a specific article density. However, Utsul et al teach a molded pulp article having a density that is at least 0.3g/cm^3 , which is very high compared with the conventional molded pulp containers, and hence is excellent in mechanical strength such as bending strength and stiffness (col.2, lines 37-42). Therefore, one of ordinary skill in the art would have recognized that a molded pulp article has a density greater than 0.3g/cm^3 in order for the container to have excellent mechanical strength, as taught by Utsul et al.

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Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to mold the pulp article of Kiyonaga to have a density greater than 0.3g/cm³ in order to for the container to have high mechanical strength such as bending strength and stiffness, as taught by Utsul et al.

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyonaga (Japanese Patent Pub. No.35-9669) in view of Kakemura et al (USPN 5,968,616).

Kiyonaga teaches all that is claimed in claim 1 and that bottles and cups are produced as molded paper articles (p.7, lines 29-32), but fails to teach a moisture permeability value or that an article has a corner or an opening portion whose thickness is greater than other portions of said article. However, Kakemura et al teach that a molded article comprising pulp (see abstract) with an inner volume of 1L (col. 11, lines 20-22) which has a moisture permeability of 0.01-0.02 g/pkg/day (equal to 10-20g/m²/day) (col.11, lines 49-58) in order to have a high water vapor barrier property for contents-keeping quality (col.1, lines 30-35). Kakemura et al also teach an article with a corner and an opening portion whose thickness is greater than other portion of said article (Fig.7) in order to provide extra

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strength to the corners and opening portion for the drop test. Therefore, one of ordinary skill in the art would have recognized that a molded pulp article used for containing liquids would have a moisture permeability of less than 100g/m²/day in order to have sufficient contents-keeping quality and to have corners and an opening portion whose thickness is greater than other portions of said article in order to provide extra strength to the corners and opening portion for drop strength, as taught by Kakemura et al.

Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to mold Kiyonaga's pulp article to the specifications of moisture permeability of Kakemura et al and mold the corners and the opening portion to have greater thickness than the other portions of the article, in order to have sufficient contents-keeping quality and extra drop strength for the corners and opening portion, as taught by Kakemura et al.

7. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyonaga (Japanese Patent Pub. No.35-9669) in view of Stevens (USPN 2,590,221).

Kiyonaga teaches all that is claimed in claim 1 but fails to teach a plastic layer on the outer or inner surfaces of the

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pulp-molded article. However, Stevens teaches a molded pulp article that is molded and dried in its ultimate shape without creases, folds or score lines of any kind in its surface, produced by suction molding or vacuum forming from wood pulp (col.1-2, lines 49-10). Over the interior or exterior or both of the molded pulp article a thin plastic film is laminated (col.2, lines 13-17). Stevens also teaches that the fibrous surface is heated to a temperature causing the plastic to be flowable or tacky, therefore making it a resin, in order to apply it to the molded article (col.2, lines 17-30). The plastic added by Stevens to the molded article is any of a number of resin solutions or emulsions (col.4 lines 6-30). The molded article has an interior liner or exterior covering, or both added, in order to render the wall of the article impervious to vapors and liquids (col.1, lines 1-5). Note that applicant in claims 9 and 14 claims the limitations of laminating and applying a plastic film or resin solution which are process limitations introduced into product claims, hence, such are given little patentable weight. Therefore, one of ordinary skill in the art would have recognized that an interior or exterior covering of plastic film or resin solution is laminated or applied to a molded pulp article in order to make

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the article impervious to vapors and liquids as taught by Stevens.

Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to laminate a plastic film or apply a resin solution to Kiyonaga's molded pulp article in order to make the article impervious to vapors and liquids as taught by Stevens.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyonaga (Japanese Patent Pub. No.35-9669) in view of Mitchell et al (USPN 6,010,595).

Kiyonaga teaches all that is claimed in claim 1, but fails to teach a multilayered structure. However, Mitchell et al teach a multiply paper structure for containers for liquids comprising a first pulp layer made from cellulose pulp fiber, a second pulp layer made from a mixture of cellulose pulp fiber and cellulose ester fibers with inherently a mixed layer between the first and second (col.2, lines 48-52). The multiply paper structure is utilized in order to overcome the disadvantages a single untreated paper layer has including being permeable to water and other aqueous liquids, and in the thickness desirable, it lacks adequate rigidity (col.1, lines 30-38). Therefore, one of ordinary skill in the art would have recognized that adding

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multiple layers of different pulps in order to make the molded pulp article impermeable to liquids and provide an adequate rigidity enhances a molded pulp article, as taught by Mitchell et al.

Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to make Kiyonaga's molded pulp article from multiple layers of different pulps in order to make the molded pulp article impermeable to liquids and provide an adequate rigidity, as taught by Mitchell et al.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyonaga (Japanese Patent Pub. No.35-9669) in view of Brennan (USPN 4,014,737).

Kiyonaga teaches all that is claimed in claim 1, but fails to teach specific specifications of the pulp fibers used to produce the molded pulp article. However, Brennan teaches a molded pulp article that uses pulp slurry having at least 50% fibers having a length in excess of 1mm, in order to provide molded pulp articles having greater strength, that are easier to dry, and have a greater capability of venting steam from a mold. Furthermore, the exact parameters of fiber distribution of fiber length and the Canadian Standard Freeness claimed by the

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applicant would have been determined by routine experimentation by one having ordinary skill in the art. Note that limitations on the parameters of the starting materials for an article does not necessarily affect the structure of the article, the starting material limitations receive little patentable weight unless an unexpected result is provided. Therefore, one of ordinary skill in the art would have recognized to select the parameters for the fibers used in the pulp slurry for making the molded pulp article within applicant's claimed range to have provide molded pulp articles having greater strength, that are easier to dry, and have a greater capability of venting steam from a mold, as taught by Brennan.

Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have selected the specific parameters of the fibers used in forming Kiyonaga's molded pulp article within the applicant's claimed range in order to provide the article with greater strength and make it easier to dry when molding, as taught by Brennan.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyonaga (Japanese Patent Pub. No.35-9669) in

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view of Mitchell et al (USPN 6,010,595) in further view of Brennan (USPN 4,014,737).

Kiyonaga teaches all that is claimed in claim 1, but fails to teach a multilayered structure. Mitchell et al teaches a multilayered structure having an innermost and outermost layer (see abstract) wherein the pulp slurry forming the outermost layer contains fibers with Canadian Standard freeness of 362cc (col.7, lines 51-57) and the pulp slurry forming the innermost layer contains fibers with Canadian Standard freeness of 226cc (col.7, lines 57-65). Mitchell and Kiyonaga fail to teach fiber length for the pulp slurry forming either layer, however, Brennan teaches that a molded pulp article that uses pulp slurry having at least 50% fibers having a length in excess of 1mm, in order to provide molded pulp articles having greater strength, that are easier to dry, and have a greater capability of venting steam from a mold. Furthermore, the exact parameters of fiber distribution of fiber length claimed by the applicant would have been determined by routine experimentation by one having ordinary skill in the art. Note that limitations on the parameters of starting materials for an article does not necessarily affect the structure of the article, the starting material limitations receive little patentable weight unless an unexpected result is provided. Therefore, one of ordinary skill

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in the art would have recognized to make a molded pulp article from multiple pulp layers in order to make the article impermeable to liquids and provide adequate rigidity, as taught by Mitchell et al., and to select the parameters for the fibers used in the pulp slurry for making the multiple layered structure of the molded pulp article within applicant's claimed ranges to provide molded pulp articles having greater strength, that are easier to dry, and have a greater capability of venting steam from a mold, as taught by Brennan.

Thus, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to make Kiyonaga's molded pulp article from multiple pulp layers in order to make the article impermeable to liquids and provide adequate rigidity, as taught by Mitchell et al. and to select the specific parameters of the fibers used in forming the multiple layered structure of the molded pulp article within the applicant's claimed ranges in order to provide the article with greater strength and make it easier to dry when molding, as taught by Brennan.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Kane (USPN 3,924,013); Martin, Jr. (USPN 4,491,502)

Foster et al (USPN 4,337,116); Miyamoto (USPN 5,547,544)

Nishigami et al (USPN 5,435,452)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Bruenjes whose telephone number is 703-305-3440. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Christopher P Bruenjes
Examiner
Art Unit 1772
CPB
CPB
September 6, 2002

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
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